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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,290	06/05/2001	Markus Wimmer	951/49617	4754

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EXAMINER

MANCHO, RONNIE M

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,290

Applicant(s)

WIMMER ET AL.

Examiner

Ronnie Mancho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-32 is/are allowed.
- 6) ☒ Claim(s) 1,2,9,19 and 20 is/are rejected.
- 7) ☐ Claim(s) 3-8,10-18 and 21-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-2, 9, 19, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by

Magiawala et al (6278361).

Regarding claim 1, Magiawala et al disclose a method for detecting shock absorber damage (abstract), comprising:

detecting wheel speed signals of an antilock braking system rotational wheel speed sensor (col. 7, lines 16-30); and

determining a condition of said shock absorber by analyzing said wheel speed signals (col. 7, lines 16-65).

Regarding claim 2, Magiawala et al disclose the method according to Claim 1, wherein the step of analyzing said wheel speed signals includes *one of* determining a temporal course of a radius change of a vehicle tire (note, tire pressure determines radius change, col. 7, lines 46+), and determining a temporal course of a rotational speed change of a wheel rim, based on said wheel speed signals (col. 7, lines 16-65).

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Regarding claim 9, Magiawala et al disclose the method according to Claim 1, further comprising high pass filtering of the wheel speed signal (note that in col. 5, lines 43-47 and col. 6, lines 2+, the DFT/FFT's are taken at cut-off frequencies of for example 0-150 Hz. That is the high frequencies are allowed to pass while the low frequencies are cut off, which therefore implies high pass filtering).

Regarding claim 19, Magiawala et al disclose an apparatus 8 (fig. 1) for detecting shock absorber damage (col. 6, lines 33+) in a vehicle having an antilock brake system (ABS, col. 7, lines 16-24) that includes a rotational wheel speed sensor 2, said apparatus comprising:

a processing unit 10 coupled to receive rotational wheel speed signals from said rotational wheel speed sensor 2 (col. 6, lines 33-40; col. 5, lines 43-47);

wherein said processing unit 10 determines characteristics of a shock absorber by analyzing said rotational wheel speed signals of said antilock system (ABS) rotational wheel speed sensor (col. 5, lines 32-47; col. 6, lines 33-40).

Regarding claim 20, Magiawala et al disclose the apparatus according to Claim 19, wherein said processing unit 10 includes a component for determining *one of* a temporal sequence of a radius change (note, tire pressure determines radius change, col. 7, lines 46+) of a vehicle tire, and a temporal course of a rotational speed change (col. 7, lines 16-65) of a wheel rim, based on said wheel speed signals.

Allowable Subject Matter

3. Claims 30-32 allowed.

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In independent claim 30, the prior art does not disclose “comparing values of an auto density spectrum within a reference frequency range and an analysis frequency range”.

Therefore, claim 30 and dependent claims 31 and 32 are allowed.

4. Claims 3-8, 10-18, 21-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

In claim 3, and 21, the prior art does not disclose “an auto density spectrum”

In claim 4, the prior art does not disclose “the method according to Claim 3, further comprising computing a quotient $DSKW_{\Delta r}$ or $DSKW_{\Delta n}$, from the auto power density spectra for first and second frequency ranges, the computed quotient corresponding to a characteristic shock absorber damage value.” The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first and second frequency ranges was disclosed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 4 is allowable.

Claims 5-8, 15-18 are objected for depending on allowable claim 4.

In claim 10, the prior art does not disclose “the method according to Claim 3, further comprising computing a quotient $DSKW'_{\Delta r}$ or $DSKW'_{\Delta n}$, from a quotient of the auto power density spectra for first and second frequency ranges, and a quotient of the auto power density spectrum for the second frequency range and third frequency range, the computed quotient $DSKW'_{\Delta r}$ or $DSKW'_{\Delta n}$ corresponding to a characteristic shock absorber damage value.” The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for

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first, second, third frequency ranges was disclosed as claimed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 10 is allowable.

Claims 11-14 are objected for depending on allowable claim 10.

In claim 22, the prior art does not disclose “the apparatus according to Claim 21, further comprising computing a quotient $DSKW_{\Delta r}$ or $DSKW_{\Delta n}$, from the auto power density spectra for first and second frequency ranges, the computed quotient corresponding to a characteristic shock absorber damage value.” The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first and second frequency ranges was disclosed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 4 is allowable.

Claims 23, 26-29 are objected for depending on allowable claim 22.

In claim 24, the prior art does not disclose “the apparatus according to Claim 21, wherein said processing further comprises a component for computing a quotient $DSKW'_{\Delta r}$ or $DSKW'_{\Delta n}$, from a quotient of the auto power density spectra for first and second frequency ranges, and a quotient of the auto power density spectrum for the second frequency range and third frequency range, the computed quotient $DSKW'_{\Delta r}$ or $DSKW'_{\Delta n}$ corresponding to a characteristic shock absorber damage value.” The prior art discloses only frequency ranges, but no quotient from the auto power density spectra for first, second, third frequency ranges was disclosed as claimed. In addition, the computed quotient corresponding to a characteristic shock absorber damage value was not disclosed by the prior art. Therefore, claim 24 is allowable.

Claim 25 is objected for depending on allowable claim 24.

Response to Arguments

6. Applicant's arguments filed 7-24-02 have been fully considered but they are not persuasive for the following reasons:

The applicant's arguments about radial acceleration make no sense since no radial acceleration was claimed. In addition, even if radial acceleration was claimed, the radial direction of the tire (direction perpendicular to the axis of rotation) is not only in the direction of the up-sprung mass of a vehicle.

Next, the applicant argues that in claims 1 and 19, Magiawala does not disclose detecting wheel speed signals of an antilock brake system. The examiner strongly disagrees Magiawala (col. 7, lines 63-53; lines 16-24; col. 5, lines 32-47) disclose detecting wheel speed signals of an antilock brake system. In addition the wheel sensors that the applicant says could be replaced as indicated in the Magiawala reference are wheel speed sensors of the prior systems which are expensive. Thus the Magiawala system is cheaper compared to prior art systems.

Next, the applicant argues that amended claim 19 reads over the prior art. The examiner disagrees. The new limitations have been rejected accordingly in reference to Magiawala.

Next, in claim 2, the applicant argues that Magiawala does not disclose "determining a temporal course of a radius change of a vehicle tire, or determining a temporal course of a rotational speed change of a wheel rim, based on said wheel speed signals." The examiner again disagrees. Magiawala disclose "determining a temporal course of a radius change of a vehicle tire (note, tire pressure determines radius change, col. 7, lines 46+), or determining a temporal

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course of a rotational speed change of a wheel rim, based on said wheel speed signals (col. 7, lines 16-65).”

The rejection to claims 3 and 21 have been withdrawn.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 703-305-6318. The examiner can normally be reached on Mon-Thurs, 9-5.

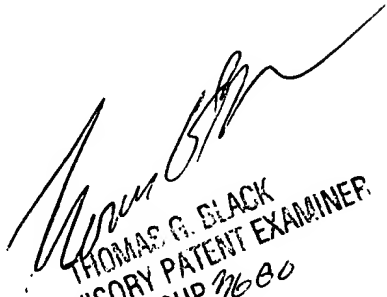
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Ronnie Mancho
Examiner
Art Unit 3663

October 20, 2002


THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 7680